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Receptor for sex steroid-binding protein of endometrium membranes: solubilization, partial characterization, and role of estradiol in steroid-binding protein-soluble receptor interaction.

Fortunati N, Fissore F, Fazzari A, Berta L, Varvello L, Frairia R
Steroids 1992 Sep 57:464-70

BROWSE : [Steroids](#) • [Volume 57](#) • [Issue 9](#)

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Abstract

The sex steroid-binding protein (SBP) receptor was solubilized from the membranes of human premenopausal endometrium with the zwitterionic detergent CHAPS. The binding activity of the soluble receptor was studied, allowing it to interact with [125I]SBP and precipitating the complex with polyethylene glycol 8,000. The interaction of SBP with the soluble receptor was specific, saturable, and at high affinity. Indeed, the specific binding was definitely improved on the solubilized form of the receptor. The effect exerted by sex steroids on the interaction of SBP with receptor was also examined on both the soluble and membrane-bound forms. At physiologic doses (10^{-8} M) estradiol inhibits the binding at a significant extent on the soluble receptor, but not on membrane-bound form. The dose of estradiol required to significantly inhibit the SBP-specific binding was dependent on the form of receptor. In membrane-bound receptor the inhibiting dose of estradiol was higher than its physiologic concentration. Thus, it is likely that, while soluble receptor cannot recognize the complex steroid-SBP, membrane-bound receptor can interact both with "unliganded" SBP and with the estradiol-SBP complex (but not with androgen-SBP complexes) in an estrogen-dependent tissue like human endometrium.

MeSH

[Endometrium](#); [Estradiol](#); [Female](#); [Human](#); [Membranes](#); [Receptors, Cell Surface](#); [Sex Hormone-Binding Globulin](#); [Solubility](#); [Support, Non-U.S. Gov't](#)

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Binding is better with the soluble form of the receptor vs membrane-bound.